INDUS UNIVERSITY

INDUS INSTITUTE OF TECHNOLOGY & ENGINEERING

Constituent Institute of Indus University

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B.Tech. Semester:	V	Branch:	CSE/CE/IT
MID SEM EXAMINATION SEPTEMBER 2022			
Subject Code:	CE0525	Subject Name:	Programming for Scientific Computing (Python)
Date:	16/09/22	Time:	90 Mins
Day:	Friday	Total Marks:	40

Instructions:

1. Figures to the right indicate full marks.
2. Make Suitable assumptions wherever necessary & indicate.

Q.1 **(a)** Discuss types of Argument Passing in function and function scope. **05**

(b) List out types of Inheritance in python and create a class named child from class father and mother and write methods to access it. **05**

(c) Give the output of following Python code: **05**

i
```
myStr = 'Indus is the best University'
print(myStr[15 : : 1])
print(myStr[-10 : -1 : 2])
```

ii
```
temp = (1, 2, 3, (4, ), [ 5, 6] )
print(temp[ 3 ])
temp[4][0] = 7
print(temp)
```

iii
```
counter = {}
    def addToCounter(country):
                if country in counter:
                 counter[country] += 1
                else:
                 counter[country] = 1
          addToCounter('China')
          addToCounter('India')
          addToCounter('china')
          print len(counter)
          print (counter[`China`])
```

iv
```
i = 0
while i < 5:
   print(i)
   i += 1
   if i == 3:
      break
   else:
      print(0)
```

v
```
a={1:"A",2:"B",3:"C"}
for i , j in a.items():
  print(i,j,end=" ")
```

Q-2	(a)	Is String a mutable data type? Also explain string operation length, indexing and slicing in details with example	05
		OR	
	(a)	Differentiate (1) lambda (2) map (3) filter.	05
	(b)	Describe methods of Regular Expression.	05
		OR	
	(b)	How to create a Socket in python? Explain with example.	05
Q-3	(a)	What is Module? Give detailed description of it with example.	05
		OR	
Q-3	(a)	How to implement threads in python? Explain any one method using suitable example.	05
Q-3	(b)	Write a program to print each line of a file in reverse order.	05
Q-3	(c)	Write a python program to arrange the characters of a given string 'welcome' in an alphabetical order using selection sort algorithm.	05